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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. | |
|--|----------------|----------------------|---------------------|------------------|--|
| 09/965,312 | 09/27/2001 | Michael J. Melfi | 01RE156 REEL:0025 | 3915 | |
| 7. | 590 11/29/2002 | | | | |
| Alexander M. Gerasimow Allen-Bradley Company, LLC 1201 South Second Street | | | EXAMINER | | |
| | | | MULLINS, F | BURTON S | |
| Milwaukee, W | I 53204-2496 | | ART UNIT | PAPER NUMBER | |
| | | | 2834 | | |

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | 1 | Application No. | Applicant(s) | no |
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| leg. | | 09/965,312 | MELFI, MICHAEL J | |
| Office Action Summary | | Examiner | Art Unit | |
| | • | Burton S. Mullins | 2834 | |
| TI | ne MAILING DATE of this communication app | | | ess |
| Period for Re | eply | | | |
| THE MAII - Extensions after SIX (iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii | TENED STATUTORY PERIOD FOR REPL' LING DATE OF THIS COMMUNICATION. Is of time may be available under the provisions of 37 CFR 1.1 ING MONTHS from the mailing date of this communication. In the or reply specified above is less than thirty (30) days, a reply of the or properties of the or extended period for reply within the set or extended period for reply will, by statute eceived by the Office later than three months after the mailing ent term adjustment. See 37 CFR 1.704(b). | 36(a). In no event, however, may y within the statutory minimum of the statutory minimum of the statutory minimum of the statutory minimum of the statutory to become | a reply be timely filed hirty (30) days will be considered timely. DNTHS from the mailing date of this com ABANDONED (35 U.S.C. § 133). | munication. |
| 1)□ Re | esponsive to communication(s) filed on | • | | |
| | , | is action is non-final. | | |
| cle | nce this application is in condition for allow osed in accordance with the practice under | ance except for formal n Ex parte Quayle, 1935 (| natters, prosecution as to the C.D. 11, 453 O.G. 213. | merits is |
| Disposition | | | | |
| - | im(s) <u>1-27</u> is/are pending in the application | | | |
| Í. | Of the above claim(s) is/are withdra | WIT HOITI CONSIDERATION. | | |
| , | nim(s) <u>7-27</u> is/are allowed. | | | |
| | nim(s) <u>1 and 6</u> is/are rejected. | | | |
| • | nim(s) <u>2-5</u> is/are objected to. nim(s) are subject to restriction and/o | or election requirement. | | |
| Application | | , ojoddon rogan emem | | |
| | specification is objected to by the Examine | er. | | |
| | drawing(s) filed on is/are: a) acce | | y the Examiner. | |
| А | pplicant may not request that any objection to the | ne drawing(s) be held in ab | eyance. See 37 CFR 1.85(a). | |
| 11) <u></u> The | proposed drawing correction filed on | _ is: a)☐ approved b)☐ | disapproved by the Examine | r. |
| | approved, corrected drawings are required in re | | | |
| 12) The | oath or declaration is objected to by the E | xaminer. | | |
| | er 35 U.S.C. §§ 119 and 120 | | | |
| 13) 🗌 Ac | knowledgment is made of a claim for foreig | n priority under 35 U.S. | C. § 119(a)-(d) or (f). | |
| | All b)☐ Some * c)☐ None of: | | | |
| 1.[| Certified copies of the priority document | | | |
| 2.[| • | | | |
| 3.[* See | Copies of the certified copies of the pricapplication from the International B the attached detailed Office action for a lis | ureau (PCT Rule 17.2(a |)). | stage |
| | nowledgment is made of a claim for domes | | | application). |
| a) [| The translation of the foreign language planowledgment is made of a claim for domes | rovisional application has | s been received. | |
| Attachment(s) | | | | |
| 2) Notice of | References Cited (PTO-892) Draftsperson's Patent Drawing Review (PTO-948) On Disclosure Statement(s) (PTO-1449) Paper No(s) | 5) Notice | ew Summary (PTO-413) Paper No(e of Informal Patent Application (PTC | |
| U.S. Patent and Trade | mark Office | | Dovt | F Paner No. 3 |

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DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on February 25, 2002 has been considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Byrd (US 6,091,173). Byrd teaches a bearing system comprising: a frame 20 or 22; a shaft 12; a rotor assembly 42 mounted on the shaft; and at least one bearing 26 or 28 supporting the shaft in the frame. The feature of "a capacitance enhancement mechanism by which rotor to frame capacitance is increased" is inherent in Byrd since shaft shield 48 or 50 increases the effective surface area between the rotating shaft 12 and the grounded frame surface 20 or 22 attached to the respective shield.
- 4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Dschen (US 3,176,286). Dschen teaches a bearing system comprising: a frame or turbine casing 9; a shaft 1; a rotor assembly (not shown, inherent to turbo-machine) mounted on the shaft; and at least one bearing 3 or 4 supporting the shaft 1 in the frame 9 (Fig.1). Dschen further teaches "a capacitance enhancement mechanism by which rotor to frame capacitance is increased"

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comprising the air gap separating flange part 1a from metallic layer 5 of annulus 6, which forms an electrical capacitance (c.2, lines 65-58).

Claim Rejections - 35 USC § 103

- 5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byrd or Dschen. Regarding claim 6, both Byrd's shield and Dschen's capacitor inherently reduce common mode voltage on the shaft; however, there is no explicit teaching as to "a scaling factor" of this reduction. However, in Byrd, this would depend on the size of the shield, e.g., how long along the shaft axis the shield/s extended, which would involve ordinary engineering design. Similarly in Dschen, the breadth of the metallic layer 5 as well as the size of the air gap would be subject to "scaling" per engineering design as suggested at c.2, lines 65-68.

Allowable Subject Matter

7. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Neither Byrd's shield nor Dschen's flange/metal layer/annulus structure can be said to comprise "a labyrinth, the labyrinth comprising a ground member, a

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shaft-voltage reducer, and one or more gaps disposed between the grounded member and the shaft-voltage reducer" (claim 2).

8. Claims 7-27 are allowed. The key feature of independent claims 7, 14 and 22 is the recitation of "enhanced surface areas" or "enhanced surfaces" forming the capacitive enhancement mechanism. "Enhanced surfaces" are defined as surfaces provided with an interleaving structure. See specification p.9, lines 12-14. For example, in Fig.2, the "enhanced surfaces" 110 comprise grounded member 104 and shaft-voltage reducer 106 having "interleaving" surfaces forming a labyrinth. Neither Byrd nor Dschen teach such an "interleaving" structure to their capacitive enhancement devices.

Conclusion

- 9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- 10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

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Burton S. Mullins Primary Examiner Art Unit 2834

bsm November 22, 2002